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## **Barriers to international student mobility: evidence from the ERASMUS program**

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**Abstract:** *The paper looks at the barriers to international student mobility, with particular reference to the European ERASMUS program. Much is known about factors that support or limit student mobility, but very few studies have made comparisons between participants and non-participants. Making use of a large dataset on ERASMUS and non-ERASMUS students in seven European countries, we look at the barriers for participation. Results reveal the overall impact of financial barriers but suggest that it is personal barriers that help us to better differentiate between ERASMUS and non-ERASMUS students. The analysis suggests a two-pronged approach to increase participation: one focusing on better information and communication, the other on increasing the benefits of ERASMUS mobility.*

Key words: mobility, ERASMUS, barriers, survey, non-participation

### **Introduction**

It has become commonplace to believe that international student mobility – defined as “students who cross national borders or the purpose or in the context of their studies” (Kelo, 2006: 5) – has a wide range of benefits at different levels. For individual students, there are presumed benefits regarding their personal development and labor market returns (Papatsiba 2005; Bracht et al. 2006). For higher education institutions, a high level of mobility among students – incoming and outgoing – is a sign of prestige and quality (Wildavsky, 2010; Green, 2012), not in the least because internationalisation nowadays is an important indicator in global rankings. Finally, at the country level, mobility enhances international competitiveness, stimulates effective labor markets, and supports the interaction between citizens of different countries (Wielemans 1991; Institute of International Education, 2011).

The quest for such benefits has increased the profile of international student mobility in recent times, as reflected in the G8’s commitment to double student mobility in the period 2000-2010 (Doyle et al. 2010). In the EU, international student mobility has steadily increased over the past years (Vossensteyn et al. 2010). The US has had the largest share of international students in the past decades, but mobility patterns have been relatively stable recently, with more than half a million foreign students entering the US on an annual basis (see Bhandari and Blumenthal, 2011).

Truth be told, mobility only reaches a minority of higher education students, in spite of structural reforms such as the European Bologna process, and the setup of sponsored mobility programs. The ERASMUS program is a case in point. ERASMUS is the largest mobility scheme for higher education in Europe and the flagship program of the European Union (EU). Over 4,000 higher education institutions from over 30 countries take part in the program. It currently enables around 200,000 students to study abroad each year. Since its inception in 1987 more than 2 million students have participated. Its annual budget – mainly for student grants - was in 2011 in excess of 450 million Euro. However, ERASMUS is still far from achieving its 10% target of European higher education students being mobile during their studies. It has been estimated that just below 4% of the students use the opportunity of the ERASMUS program to study some time abroad (Vossensteyn et al. 2010), despite analyses (e.g. Bhandari and Blumenthal, 2011) pointing out that there is scope for an increase in international mobility across the globe, partly because of unmet demand (e.g. Chan, 2012).

This raises questions regarding the barriers that higher education students face in relation to studying abroad. Yet, most research has been carried out on the problems and barriers faced by those students who go abroad, rather than on the problems of those who do not (Souto-Otero and McCoshan 2006; di Pietro and Page 2008; Souto-Otero 2008; Findlay and King 2010). Neither has there been a focus in research on the difference between participants and non-participants. Research (Maiworm, 2002; Maiworm and Teichler, 2002) has shown that many interested in and actually signing up for ERASMUS eventually do not participate. Thus, as Teichler (2004: 398-99) notes: “We do not know how many students do not learn about ERASMUS and we do not know how many want to study abroad in its framework but do not obtain a grant. (...) The available information suggests that non-participation in ERASMUS is more often due to self-selection on the part of the students than to selection by the institutions”. Despite this reasonable suggestion, we lack high quality data on the barriers faced by ERASMUS and non-ERASMUS students. This is the gap the paper tries to address, by taking stock of the barriers faced by participant and non-participants in the ERASMUS program.

## **Literature review**

Most studies on student mobility have been based on small samples and have not compared mobile and non-mobile students. Klahr and Ratti (2000) – surveying mobile students –

highlight the importance of the lack of recognition of periods abroad/credit transfer, insufficient knowledge of academic prerequisites and qualifications of various countries, differences in the structure of the academic year, disparities in the times at which examinations are taken, lack of foreign language skills, lack of information on the host country living conditions, culture and administrative requirements, lack of suitable accommodation for the study abroad period and additional costs to students, such as additional insurance coverage, bank and currency exchange charges (see also Langley and Breese 2005; Desoff 2006; Goldstein and Kim 2006; Lozano 2011). More recently, Doyle et al. (2010) explore the factors that inhibit the uptake of international exchange programs among New Zealand students. Their survey of 625 New Zealand students suggests the importance of the costs of studying overseas, leaving friends and family and students' preference to finish their degree as soon as possible over going abroad. Somewhat less important barriers were the requirement to study in a language other than English (see also Lane-Toomey and Lane 2012 for non-exchange students), insufficiently good grades to study abroad, lack of knowledge about what is involved in the exchange, lack of confidence, the inflexibility of degrees and concerns about eligibility for loans and allowances. Sanchez et al.'s (2006) survey of 477 students in the USA, France and China suggests that students in the three countries identified the following barriers to study abroad: family, financial, psychological (related to aspects such as feelings for students' own country and fear of new places) and social (related to friends and family) – although they experienced these to varying degrees.

Specifically in relation to ERASMUS, Bracht et al. (2006) report that ERASMUS students find problems most commonly in relation to accommodation, closely followed by financial matters (see also Souto-Otero 2008), administrative matters, credit transfer, differences in teaching or learning methods, teacher support to students, taking courses in a foreign language, and a too high academic level abroad – in that order. Kehm (2005) and Isserstedt and Schnitzer (2002) discuss the results of one of the very few surveys of ERASMUS and non-ERASMUS students, which was undertaken ten years ago in Germany. They underline financial issues, separation from the family, lack of integration of programs at home and abroad and language aspects as main individual obstacles to mobility. 61% of non-mobile students cited financial aspects as a barrier, whereas 41% of mobile students did; 47% of non-mobile students cited separation from family/partner as a barrier, whereas 23% of mobile students did; and 43% of non-mobile students expected an increment in the duration of their studies due to study abroad.

As highlighted, very few studies report on the main barriers that ERASMUS students and non-ERASMUS students see in relation to participation in the program. No study has systematically and at a large scale explored commonalities and differences in the way participants and non-participants perceive barriers to participation in the ERASMUS program, a distinction of policy relevance when thinking about the design of incentives for participation in the program. This is done in this article, which aims to better differentiate barriers for different types of higher education students. Based on the literature reviewed, the factors or barriers explored in our study are of five types: financial barriers, barriers related to ERASMUS conditions, barriers related to higher education system comparability, personal background and lack of awareness. Financial issues relate to the cost-covering perspective – studying abroad often implies a financial commitment on the part of ERASMUS students – but also to the expected financial benefits from participation in the program. ERASMUS condition barriers relate more specifically to aspects such as the administrative burden of the program, the choice of institutions, or the stipulated length of the study period abroad. Higher education system compatibility refers to aspects such as the structure of programs (e.g. whether they have the flexibility to include courses taken abroad), compatibility of academic calendars and credit recognition. Personal characteristics can also be an important barrier to participation, including – most importantly – the ability to speak a foreign language. Other personal aspects, such as having a partner at home, care-taking responsibilities, etc. may also hold students back. Finally, students need to be aware of the ERASMUS program in order to participate in it, and receive support in terms of finding a suitable institution or become familiar with ERASMUS’ financial conditions and application procedures.

## **Data and methodology**

This paper makes use of a unique dataset derived from a web survey of ERASMUS and non-ERASMUS students, carried out in 2010 in seven countries. Countries were selected on the bases of variation in terms of the level of participation in ERASMUS (high: Czech Republic, Finland, Germany, Spain; low: Poland, Sweden, UK) relative to their higher education population, geographical spread, and size.

The survey contained questions for ERASMUS students on demographic characteristics, difficulties encountered and reasons for participation; and questions for non-ERASMUS students on demographic characteristics, reasons for not participation in ERASMUS and potential incentives for participation. Regarding the questions on barriers, the survey asked respondents to rate the importance of a large set of potential barriers from 1 (not important at

all) to 5 (very important) in both surveys. Items were constructed on the basis of the literature review and items in earlier surveys. The links to the surveys were distributed to institutional ERASMUS coordinators in all countries, who were requested to forward these to ERASMUS students (for the years 2008/2009 and 2009/2010) and non-ERASMUS students in their universities. Surveys were available in seven languages to maximize response rates.

For the analysis presented here, data were merged matching the variables on ERASMUS and non-ERASMUS datasets on barriers whenever possible. Data were analyzed through descriptive statistics and multinomial logistic regression. Multinomial logistic regression is employed when the dependent variable is categorical with more than two discrete outcomes and follows a similar logic to that of binary logistic regression. Discriminant function analysis may be used in the same situation, but requires adherence to more assumptions. In multinomial logistic regression the log odds of the outcomes are modeled as a linear combination of the predictor variables. The outcome variables in the model relates to the status of the student as ERASMUS participant, non-ERASMUS student who considered participation and non-ERASMUS student who did not consider participation. Predictors are dichotomous variables, coded as 0 = barrier not important and 1= barrier important, when respondents ranked the barrier between 1 and 3 and between 4 and 5 respectively in the survey. The final selection of variables included in the model was based on theoretical expectations derived from the literature review previously presented and model fit (see also Stroud 2010). Alternative approaches would have been using factor analysis to include factors – the five sets of barriers – as independent variables. However, this approach would have not utilized the results of previous work on barriers to international student and would have made the interpretation of results more difficult and the results less amenable to inform policy. We adopted a specific to general approach – or theory driven approach – to the construction of multivariate models whereby a model based on a small set of core variables is constructed, diagnoses testing is conducted and later additional variables are included and their influence on the model examined. Our approach thus conjectures that some variables are more important than others in differentiating between mobile and non-mobile students, consistently with previous studies (see also Ulubasoglu and Cardak 2007). In this vein we initiated our modeling accounting for barriers relating to family relationships, insufficient financial help for study abroad and recognition problems. Additional variables were then added to the model, and the nested models compared using likelihood ratio  $\chi^2$  tests and the Hausman test, and taking into consideration collinearity problems that could arise from the inclusion of new variables.

The database was cleaned by e.g. removing cases that reported an ERASMUS period in a country that does not take part in the ERASMUS program, etc.), leaving 17,845 observations for the analysis; 11,517 ERASMUS students, 4,974 students that had considered ERASMUS but did not take part and 1,354 students that had not considered taking part in the program. This results in a sample with low margins of error for both non-ERASMUS and ERASMUS students (<2% at the 95% confidence interval).

## **Results**

The survey sample offers a good balance across the seven countries, bearing in mind the countries differ in terms of the balance between incoming and outgoing mobile students. There was also a good representation of subject areas. The largest proportion of students came from traditional 'ERASMUS popular' areas: business and management, engineering and technology, language studies, social sciences and humanities. Most respondents were studying for a Bachelor degree (54%), which is the main target of the ERASMUS program. Around a fifth (21%) studied for a Master program, and 1% for a doctoral degree. Almost a quarter of respondents (24%) did not provide information on their program of study. Most respondents (ERASMUS and non-ERASMUS) were below 24 years of age, with only a minority of respondents (less than 10%) being over 25 years of age.

Having described main characteristics of the sample, we report survey results on the barriers faced by ERASMUS and non-ERASMUS students next. Table 1 shows the percentage of respondents in each category of student that reported the barrier as high or very high. The table reveals several patterns. First, there are some barriers of high importance to both participants and non-participants in the program. This is the case, in particular, for the level of the ERASMUS grant. The grant level is considered too low by over half of the ERASMUS students, by 44% of those who considered participation in the program and by 39% who did not consider taking part in the program. This suggests that as an individual takes participation more seriously and starts gathering information about the costs of mobility it becomes clearer that the level of ERASMUS funding may be insufficient. Two other common barriers perceived by both participants and non-participants as particularly strong, are related to system compatibility: the lack of integration of studies at home and abroad and expected difficulties with credit transfer. This reflects that in spite of the action of the ERASMUS program and compatibility efforts in the context of the Bologna process, recognition is not always a reality in practice. The scores of ERASMUS students are higher than those of non-ERASMUS students, suggesting that these are problems that do not deter from participation per se, or that ERASMUS students only find the true extent of these problems once they have

started taking part in the program. The importance of financial and credit transfer aspects is in line with the results of Bracht et al. (2006) and Kehm (2005).

The table also shows important differences between ERASMUS and non-ERASMUS students. Some of these are rather unsurprising, e.g. the fact that ERASMUS students experience problems with program administration; non-ERASMUS students are highly likely to have, at best, only heard of potential program administration problems. But differences are also noticeable in a range of other factors, which are much more important to non-ERASMUS students than to ERASMUS students, and therefore tell us something about core aspects that explain why those students decided not to participate in the program in the first place. Indeed, there are differences in relation to financial and informational barriers as non-ERASMUS students are much more likely to be uncertain about the benefits derived from the ERASMUS program and more likely to be ill-informed about the program in comparison to ERASMUS participants. Regarding personal characteristics differences are even more evident. Those who did not consider taking part in the program are much more likely not to speak a foreign language and feel that personal relationships are a barrier to participation more often than those who considered participation in the program. The latter see these aspects as more of a barrier than the individuals who took part in the program. Finally, the table suggests the relevance of assumptions and possibly prejudice. For instance, the lack of information about the program and finding a suitable program abroad are considered less important barriers by ERASMUS than non-ERASMUS students. This finding is somewhat in contrast with the fact that information about the ERASMUS program is generally easy to find. Also, as institutions need to sign agreements with foreign partner institutions within the ERASMUS framework, the difficulty of finding an institution/program abroad may be exaggerated. That said, the survey reports on perceptions/views, and these should be valued as the students' realities.



**Table 1: Shared barriers to participation in the ERASMUS program by type of student**

	<i>ERASMUS Participants</i>	<i>Considered ERASMUS participation</i>	<i>Did not consider ERASMUS participation</i>
<b>Awareness/ information</b>			
Lack of information about the program	16%	30%	27%
Difficulty to find appropriate institution/program	18%	26%	32%
Uncertainty about quality education abroad	24%	25%	33%
Uncertainty about education system abroad	37%	30%	39%
<b>Personal background</b>			
Lack language skills	19%	29%	42%
Plan to study abroad full qualification in the future	19%	10%	6%
Family and personal relationships	14%	28%	47%
Work responsibilities	9%	16%	23%
<b>Financial barriers</b>			
Uncertainty about ERASMUS benefits	11%	24%	34%
ERASMUS grant levels too low	56%	44%	39%
<b>ERASMUS conditions</b>			
Difficulties administration of the program	36%	22%	15%
High competition ERASMUS grants	19%	32%	23%
Not possible to choose institution abroad myself	32%	17%	17%
ERASMUS period too long	3%	11%	15%
ERASMUS period too short	28%	10%	4%
Lack of student services abroad	33%	24%	25%
<b>HE system comparability</b>			
Incompatibility academic calendar	22%	20%	18%
Lack integration studies home/abroad	36%	32%	31%
Expected difficulties credit recognition	38%	38%	32%
Lack of study programs in English	19%	28%	20%
<b>Other</b>	21%	22%	35%

Legend: Percentage of respondents who reported the barrier as being important or very important (4 or 5).

A multinomial logistic regression model helps us to understand differences between students in a more systematic way. The model regresses one outcome variable with three categories (having participated in ERASMUS, having considered participation in ERASMUS and not having considered participation in ERASMUS) on a set of predictors. Regarding the selection of predictors, we initially measured the goodness of fit of models using McFaddens pseudo- $R^2$  and the likelihood ratio (LR) test was used in order to compare the relative fit of other models. It is worth noting that although measures of fit in logistic models provide some information, it is partial information that must be assessed within the context of the theory

motivating the analysis, past research, and the estimated parameters of the model being considered (Long and Freese 2001).

The Hausman test was used to check the assumption of independence of irrelevant alternatives (IIA) in the multinomial logistic regression (Small and Hsiao 1985). This assumption requires that an individual's evaluation of an alternative relative to another should not change if a third (irrelevant) alternative is added to or dropped from the analysis. The Hausman test failed to reject the assumption of the IIA, so multinomial logistic regression is an appropriate statistical method to use with this data. We also checked for multicollinearity. Following Menard (2002), we obtained the Variance Inflation Factor (VIF), an indicator of how much of the inflation of the standard error could be caused by collinearity, values on an OLS regression model using the same dependent and independent variables as in our multinomial model. This revealed no multicollinearity problems in our data (all tolerance VIF values above 0.8).

The best-fit model presented in table 2 includes as predictors barriers related to awareness and information factors (uncertainty about the quality of education abroad), personal background characteristics (personal relationships, language skills), finance (the ERASMUS grant is too low); and higher education system comparability (difficulties in recognition). The table shows that all variables are highly significant statistically, and help to clearly differentiate the three groups of students.

**Table 2 Multinomial logistic regression**

	Considered	Not considered
Base outcome: participated in ERASMUS		
	Relative risk ratios	
Uncertainty about quality education abroad	0.821 *** (0.036)	1.257** (0.086)
Family and personal relationships	2.029 *** (0.091)	5.257*** (0.34)
Lack language skills	1.534 *** (0.067)	3.042*** (0.20)
ERASMUS grant levels too low	0.439 *** (0.016)	0.398*** (0.025)
Expected difficulties credit recognition	0.828 *** (0.032)	0.604*** (0.040)

Number of observations:	17,845			
Pseudo-R <sup>2</sup>	0.0627			
LR $\chi^2$ (10)	1867.98			
<i>Hausman test of IIA</i>	Chi2	Df	P>chi2	Evidence
Participated in ERASMUS <sup>^</sup>	-197.883	6	1.000	For Ho+
Considered participation <sup>^</sup>	-2.067	6	1.000	For Ho+
Did not consider participation <sup>^</sup>	2.424	6	0.877	For Ho+

Legend: \*p<.1; \*\*p<0.05; \*\*\*p<0.01; + Ho: Odds (Outcome J vs Outcome K) are independent of other alternatives. ^Omitted variable in the Hausman test. Standard errors in brackets.

Since coefficients from multinomial logistic regressions are difficult to interpret, we present our regression results in the form of a relative risk ratio (for a unit change in the predictor variable the relative risk ratio of the outcome relative to the referent group is expected to change by a factor of the respective parameter estimate, given that the variables in the model are held constant). A value greater than one indicates that the risk of the outcome falling in the comparison group relative to the risk of the outcome falling in the referent group increases as the value of the predictor increases – the comparison outcome is more likely. An individual in the ‘participated in ERASMUS’ category is thus expected to be more likely to consider educational quality a high barrier than those who considered going (other variables being equal), but more likely to consider that same factor a low(er) barrier than those that did not consider going.

On the whole, the results show a pattern whereby some barriers are more important for ERASMUS students (ERASMUS grant and recognition problems) than for non-ERASMUS students. This could be explained as individuals are more likely to know about the details of these financial and comparability aspects as they participate in the program and as other barriers are important in deterring participation. Personal barriers (related to language and, above all, personal relationships) are those that seem to be more important for non-ERASMUS students. They are, moreover, much more important for those respondents who did not consider participation than for those who considered participation. The results regarding educational quality are more mixed. The results of the comparison with the baseline group are different for those who considered and those who did not consider embarking upon ERASMUS.

The findings lead us to an interpretation of a sequence in the decision-making of students and suggests that they first consider personal aspects, and only later they consider other aspects related to finances and system compatibility – even though those other aspects are still

important barriers to participation in the program. Therefore, it is individual characteristics and perceptions, rather than the ERASMUS program itself, that seem to deter students from participation in the first instance. The results for non-mobile students are consistent with the Eurobarometer data which suggest that attitudes to mobility play a role and can be a barrier to mobility. In spite of its economic benefits, 'happiness economics' (Layard, 2005) has highlighted negative consequences of mobility in terms of the erosion of local community sentiments and strong decreases in well-being, to conclude that the economic benefits of mobility are outweighed by its social costs. Apparently, European students see the dilemmas implicated in mobility. Data from the 2005 Eurobarometer indicate that Europeans believe that geographical mobility is less positive for families even though it is a 'good thing' for the employment-related domains of the labor market and the economy, as well as for the individual (Souto-Otero 2011). 60% of respondents believed that mobility is good for European integration, 50% that it is good for the labor market and around 48% that it is good for individuals and the economy. By contrast only 36% considered mobility a good thing for families, presumably because students are detached from their families and (local) personal networks. On the whole, the differences point at the importance of looking at different types of students when considering the most important barriers to participation, as opposed to difficulties with the program.

## **Conclusion**

This paper has analyzed the importance of barriers to mobility and has examined differences between ERASMUS and non-ERASMUS students. The disaggregation and contrast between the perceptions of ERASMUS and non-ERASMUS students provides results not picked up by surveys focusing solely on students participating in ERASMUS. It underlines the effect of personal variables as a differentiating factor between ERASMUS and non-ERASMUS students. The importance of personal aspects may suggest that the emphasis of the marketing and communication of the program should change, to put greater emphasis on opportunities for personal development and the establishment of new relationships without losing old ones. Also an early intervention in terms of language learning should be supported (as suggested by previous research, Kehm 2005; Souto-Otero 2008).

This stress on communication seems the more important, given that it is unlikely that the amount of financial support will increase in the coming years. Although the financial barriers are still relevant in terms of program access, European governments and the European Union

– in the light of the economic crises – are more likely to call upon students to invest in their futures. We not necessarily recommend this “privatization” of student mobility, but think it is reasonable to assume that governmental financial support is limited. In fact, a better communication of the benefits of international mobility and taking care that international credits are recognized, may actually contribute to lifting the financial barriers: it may lead students to think that the benefits (of all sorts) outweigh the costs.

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